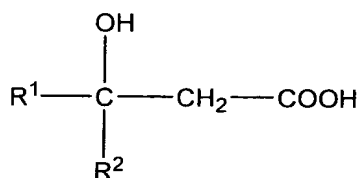


CLAIMS

1. An indicator material for assessing body odor comprising at least one member selected from the group consisting of:

- 5 a substance (A) which is a β -hydroxycarboxylic acid compound represented by the following formula (1):

Formula (1)



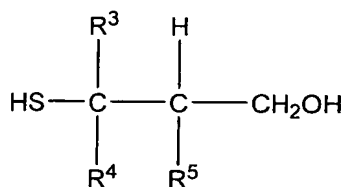
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wherein R^1 is an alkyl having 1 to 4 carbons; R^2 is a hydrogen atom or an alkyl having 1 to 4 carbons, and the total number of carbons in the formula (1) is 10 or less;

- 15 a substance (B) which is a derivative of β -hydroxycarboxylic acid, wherein an atom(s) or an atomic group(s) is introduced to a hydroxyl group and/or a carboxylic group of a β -hydroxycarboxylic acid compound represented by the formula (1);

- 20 a substance (C) which is an alcohol compound having a mercapto group at the 3-position represented by the following formula (2):

Formula (2)



wherein R³ is a hydrogen atom or methyl group; R⁴ is an alkyl group having 1 to 3 carbons; and R⁵ is a hydrogen atom or a methyl group, the total number of carbons in the formula (2) is 8 or less; and

5

a substance (D) which is a derivative of an alcohol compound having a mercapto group at the 3-position, wherein an atom(s) or an atom group(s) is introduced to a mercapto group and/or a hydroxyl group of an alcohol compound having a mercapto group at the 3-position represented by the formula (2).

10

2. An indicator material for assessing body odor according to claim 1, wherein the indicator material for assessing body odor contains the substance (A) and/or the substance (B).

15

3. An indicator material for assessing body odor according to claim 1, wherein the indicator material for assessing body odor contains the substance (C) and/or the substance (D).

20

4. An indicator material for assessing body odor according to claim 1, wherein the indicator material for assessing body odor contains the substance(s) (A) and/or (B) and the substance(s) (C) and/or (D).

5. An indicator material for assessing body odor according to claim 4, wherein the indicator material for assessing body odor contains the substance (A) and the substance (C).

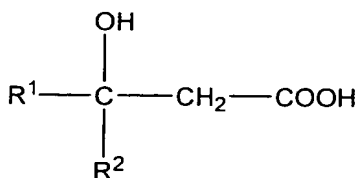
5 6. An indicator material for assessing body odor according to claim 4, wherein the indicator material for assessing body odor contains the substance (B) and the substance (D).

7. An indicator material for assessing body odor according to claim 5, wherein the weight ratio of the substances (C) and (A) (substance (C):substance (A)) is 1:10 to 1:1,000.

8. A method of assessing body odor using as an index at least one member selected from the group consisting of:

15 a substance (A) which is a β -hydroxycarboxylic acid compound represented by the following formula (1):

Formula (1)



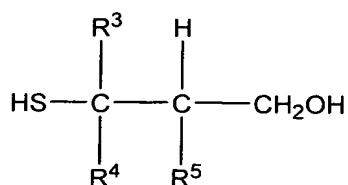
20 wherein R^1 is an alkyl having 1 to 4 carbons; R^2 is a hydrogen atom or an alkyl having 1 to 4 carbons, and the total number of carbons in the formula (1) is 10 or less;

25 a substance (B) which is a derivative of β -hydroxycarboxylic

acid, wherein an atom(s) or an atomic group(s) is introduced to a hydroxyl group and/or a carboxylic group of a β -hydroxycarboxylic acid compound represented by the formula (1);

a substance (C) which is an alcohol compound having a mercapto group at the 3-position represented by the following formula (2):

Formula (2)



wherein R^3 is a hydrogen atom or methyl group; R^4 is an alkyl group having 1 to 3 carbons; and R^5 is a hydrogen atom or a methyl group, the total number of carbons in the formula (2) is 8 or less; and

a substance (D) which is a derivative of an alcohol compound having a mercapto group at the 3-position, wherein an atom(s) or an atomic group(s) is introduced to a mercapto group and/or a hydroxyl group of an alcohol compound having a mercapto group at the 3-position represented by the formula (2).

9. A method of assessing body odor according to claim 8, wherein an indicator material comprising at least one member selected from the group consisting of the substances (A), (B), (C) and (D) is used.

10. A method of assessing body odor according to claim 8, wherein

the substance (A) and/or the substance (B) is used as an index(es).

11. A method of assessing body odor according to claim 8, wherein the substance (C) and/or the substance (D) is used as an index(es).

5

12. A method of assessing body odor according to claim 8, wherein the substances (A) and/or (B) and the substances (C) and/or (D) are used as indexes.

10 13. A method of assessing body odor according to claim 12, wherein the substance (A) and the substance (C) are used as indexes.

14. A method of assessing body odor according to claim 12, wherein the substance (B) and the substance (D) are used as indexes.

15

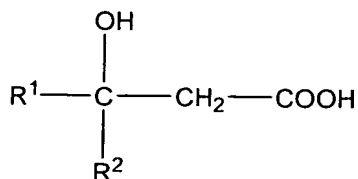
15. A method of assessing body odor according to claim 13, wherein an indicator material in which the weight ratio of the substances (C) and (A) (substance (C):substance (A)) is 1:10 to 1:1,000 is used.

20

16. A method of assessing effectiveness of a deodorant using as an index(es) at least one member selected from the group consisting of:

a substance (A) which is a β -hydroxycarboxylic acid compound
25 represented by the following formula (1):

Formula (1)

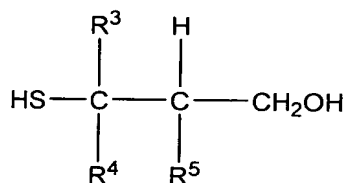


wherein R^1 is an alkyl having 1 to 4 carbons; R^2 is a hydrogen
 5 atom or an alkyl having 1 to 4 carbons, and the total number of
 carbons in the formula (1) is 10 or less;

a substance (B) which is a derivative of β -hydroxycarboxylic
 acid, wherein an atom(s) or an atomic group(s) is introduced to
 10 a hydroxyl group and/or a carboxylic group of a β -hydroxycarboxylic
 acid compound represented by the formula (1);

a substance (C) which is an alcohol compound having a mercapto
 group at the 3-position represented by the following formula (2):

15 Formula (2)



wherein R^3 is a hydrogen atom or methyl group; R^4 is an alkyl group
 having 1 to 3 carbons; and R^5 is a hydrogen atom or a methyl group,
 20 the total number of carbons in the formula (2) is 8 or less; and

a substance (D) which is a derivative of an alcohol compound
 having a mercapto group at the 3-position, wherein an atom(s) or

an atom group(s) is introduced to a mercapto group and/or a hydroxyl group of an alcohol compound having a mercapto group at the 3-position represented by the formula (2).

5 17. A method of assessing effectiveness of a deodorant according to claim 16, using an indicator material comprising at least one member selected from the group consisting of the substances (A), (B), (C) and (D).

10 18. A method of assessing effectiveness of a deodorant according to claim 16, using the substance (A) and/or the substance (B) as an index(es).

15 19. A method of assessing effectiveness of a deodorant according to claim 16, using the substance (C) and/or the substance (D) as an index(es).

20 20. A method of assessing effectiveness of a deodorant according to claim 16, using the substances (A) and/or (B) and the substances (C) and/or (D) as indexes.

21. A method of assessing effectiveness of a deodorant according to claim 20, using the substance (A) and the substance (C) as indexes.

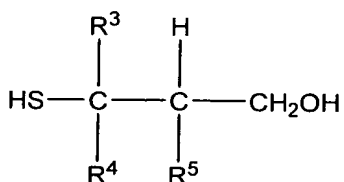
25 22. A method of assessing effectiveness of a deodorant according to claim 20, using the substance (B) and the substance (D) as indexes.

23. A method of assessing effectiveness of a deodorant according to claim 21, using an indicator material in which the weight ratio of the substances (C) and (A) (substance (C):substance (A)) is
 5 1:10 to 1:1,000.

24. A method of producing an alcohol compound having a mercapto group at the 3-position represented by the formula (2) comprising a step of:

10 incubating perspiration originated from a human in an environment with an oxygen concentration of 10 v/v% or less:

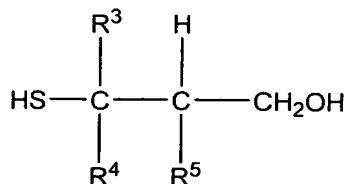
Formula (2)



15 wherein R³ is a hydrogen atom or a methyl group; R⁴ is an alkyl group having 1 to 3 carbons; and R⁵ is a hydrogen atom or a methyl group, the total number of carbons in the formula (2) is 8 or less.

20 25. A method of assessing body odor comprising steps of:
 incubating perspiration originated from a human in an environment with an oxygen concentration of 10 v/v% or less to produce an alcohol compound having a mercapto group at the 3-position represented by the formula (2); and
 25 using the produced compound as an index:

Formula (2)



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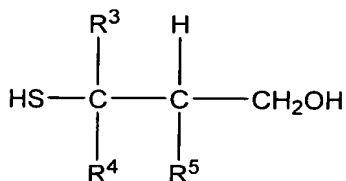
26. A method of assessing effectiveness of a deodorant comprising steps of:

incubating perspiration originated from a human in an environment with an oxygen concentration of 10 v/v% or less to produce an alcohol compound having a mercapto group at the 3-position represented by the formula (2); and

using the produced compound as an index:

Formula (2)

15



27. A kit for assessing body odor of a human, wherein the kit for assessing body odor of a human includes a coloration reagent which reacts with β -hydroxycarboxylic acid originated from perspiration of a human.

28. A kit for assessing body odor of a human according to claim

27, wherein the kit for assessing body odor of a human further includes a coloration reagent which reacts with fatty acid having 12 or less carbons other than said β -hydroxycarboxylic acid.

5 29. A kit for assessing according to claim 27 or 28, wherein the reagent includes a compound having a hydrazino group or a diazomethyl group as an essential component.

30. A kit for assessing according to claim 29, wherein the reagent
10 is 2-nitrophenylhydrazine or 9-anthryldiazomethane.

31. A method of assessing body odor of a human comprising steps of:

a first step of extracting a mixture of β -hydroxycarboxylic
15 acid and fatty acid having 12 or less carbons other than said β -hydroxycarboxylic acid from perspiration of a human;

a second step of adding the reagent to the mixture to exhibit color; and

a third step of assessing the kind and/or strength of body
20 odor from the color exhibited in the second step.

32. A method of assessing body odor of a human comprising steps of:

a first step of extracting a mixture of β -hydroxycarboxylic
25 acid and fatty acid having 12 or less carbons other than said β -hydroxycarboxylic acid from perspiration of a human;

a second step of separating β -hydroxycarboxylic acid from the mixture;

a third step of reacting said β -hydroxycarboxylic acid separated in the second step with the reagent to exhibit color;

5 and

a fourth step of assessing the kind and/or strength of body odor from the color exhibited in the third step.

33. A method of assessing body odor of a human comprising steps
10 of:

a first step of extracting a mixture of β -hydroxycarboxylic acid and fatty acid having 12 or less carbons other than said β -hydroxycarboxylic acid from perspiration of a human;

a second step of separating the mixture into β -hydroxycarboxylic acid and fatty acid having 12 or less carbons
15 other than said β -hydroxycarboxylic acid respectively;

a third step of reacting said β -hydroxycarboxylic acid separated in the second step with the reagent to exhibit color;

a fourth step of reacting said fatty acid having 12 or less
20 carbons other than said β -hydroxycarboxylic acid separated in the second step with the reagent to exhibit color;

a fifth step of assessing the kind and/or strength of body odor from each of the colors exhibited in the third and fourth steps.

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